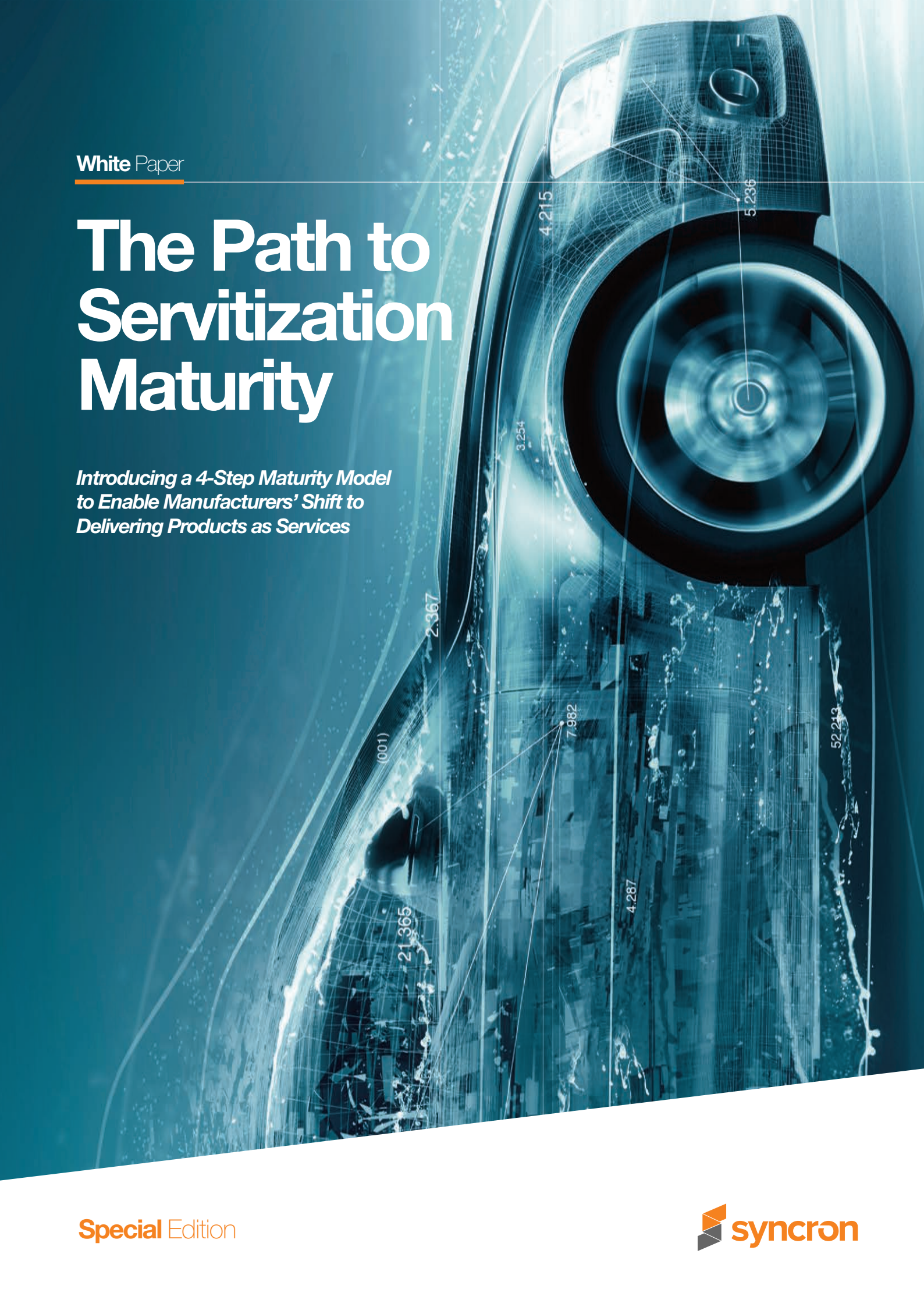# The Path to Servitization Maturity

Introducing a 4-Step Maturity Model to Enable Manufacturers' Shift to Delivering Products as Services

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The Path to Servitization Maturity

Introducing a 4-Step Maturity Model to Enable Manufacturers' Shift to Delivering Products as Services

The manufacturing industry as we know it is changing before our eyes. Technology has completely disrupted the way manufacturers operate and market trends have shifted the way businesses and consumers buy and use products. And the change is just getting started.

One of the biggest changes to hit manufacturing is the shift toward delivering Product-as-a-Service (PaaS), where customers purchase a desired result or output of a product rather than the product itself. Known in academia as "*servitization,*" this shift is forcing manufacturers to redefine the way they do business and requires both culture and process changes across the entire organization.

Critically, the time to make this change is now. The rise of the Internet of Things (IoT) has paved the way for the *"as-a-Service"* business model by introducing low-cost sensors, powerful embedded controllers and wireless communication. With a strong IoT network now available, manufacturers can combine remote monitoring with data analysis to facilitate predictive maintenance, reduce machine downtime and optimize productivity.

Beyond IoT, five key drivers have made the shift to delivering products as services inevitable:

1. **A new generation of customers:**
   A new generation of customers has come of age, and as the success of streaming services illustrates, this generation values access over possession and experiences over ownership.

2. **The rise of specialization:**
   Not everyone can (or should) do everything well, in the same way manufacturers are more adept in maximizing the uptime of their products than their customers. That thinking has driven specialization across businesses that shows no signs of slowing down. In manufacturing, for example, that means teams and organizations now recognize that third-party software providers are more adept at solving specific business challenges opposed to in-house solutions.

3. **The need to protect against Amazon and the independent aftermarket:**
   An independent aftermarket, led in large part by Amazon, is beginning to capture significant revenue from manufacturers by allowing consumers to purchase spare parts from third parties. Delivering products as services, however, will eliminate the need to purchase spare parts, as customers will buy into an outcome that includes maintenance, repairs and parts.

4. **Pressure from customers:**
   Customers now demand improved availability and reliability from everything they use. They also want a lower and more predictable total cost of ownership. The only way to meet these demands is through a PaaS business model.

5. **Learnings from the economic success of SaaS:**
   The software industry made a similar transition to an "as-a-Service" model with enormous success. Following this shift, Adobe nearly tripled its stock price in four years. Meanwhile, Salesforce, which pioneered the Software-as-a-Service (SaaS) model, now enjoys annual revenue in the $13B range.

Perhaps most importantly, PaaS will benefit manufacturers and consumers alike. As a result, it's no surprise that IDC reported 30 percent of G2000 manufacturers would offer products-as-a-service by the end of 2019[1]. Even so, the shift to fully delivering a PaaS business model can't happen overnight. Rather, it will take time -- and that's okay.

This paper will explore what this shift looks like and introduce a maturity model to help manufacturers accelerate their journey to selling and delivering Product-as-a-Service.

Introducing the Servitization Maturity Model

"It's inevitable: Selling products as services will become a major component of OEMs' businesses over the next decade."
-- Aly Pinder, Program Director, Service Innovation & Connected Products, IDC

As manufacturers aim to future-proof their businesses by moving rapidly toward PaaS, they must simultaneously optimize the performance of their current break-fix service models – where products are repaired reactively after they have already failed – to meet the needs of disconnected products.

"It's inevitable: Selling products as services will become a major component of OEMs' businesses over the next decade."

A minority of manufacturers have some sort of IoT project underway. However, most original equipment manufacturers' (OEMs) deployed products are disconnected, or not IoT enabled. These are products that were sold several years ago, are still and will be in service for the years – or even decades – remaining in their lifecycles. The repair and maintenance of these products will continue to be delivered via OEMs' traditional service operations, which must be continuously optimized to not only deliver increased value to customers, but also prepare for the inevitable shift to selling products-as-a-service.

Operating these two service models in parallel will most certainly be a balancing act, but it is possible. Along the way to the full realization of delivering products as services, manufacturers will fall into several stages of maturity. We can categorize these stages as follows:

01 Reactive   02 Preventative   03 Predictive   04 Proactive

It's important to note that on this journey, manufacturers can fall into multiple stages of this maturity model at any given time. This spread might be due to the manufacturer's ability to deliver on the promises of certain stages or due to customers' desire to move from one service model to another.

Let's take a look into each stage of the maturity curve to better understand what they entail and how they will help manufacturers successfully shift from the traditional break-fix service business model to a new, proactive servitized model.

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Reactive

Manufacturers have delivered break-fix service to customers for many years. For the most part, this service has been reactive.

Reactive service is the least mature way of delivering service to customers, partly because the manufacturer is not connected to the product at all. In this stage of maturity, the customer operates the machine and repairs are made after the product has already failed and the manufacturer makes a fix to deliver the same level of service the customer had before the breakage occurred.

In the reactive stage, manufacturers optimize inventory costs, as they need to keep costs low yet still serve customers well. In doing so, what manufacturers really sell to customers are service parts.

Preventive

The next level of maturity in delivering service is the preventive stage. In this stage, manufacturers still aren't connected to the product, but their service strategy focuses on avoiding problems with regular maintenance rather than waiting until problems occur.

Consider the case of a car. Most car manufacturers tell customers to bring in their vehicles for service every two years or every 30,000 kilometers. As long as customers keep to this schedule, the vehicles shouldn't break (but if they do, the manufacturer might provide a rental car during the service period to retain the same level of service).

With preventive maintenance, downtime still exists, but the goal is to eliminate unplanned downtime. In the preventive stage, manufacturers optimize both inventory and maintenance costs because they are selling both parts and maintenance to customers from the very beginning.
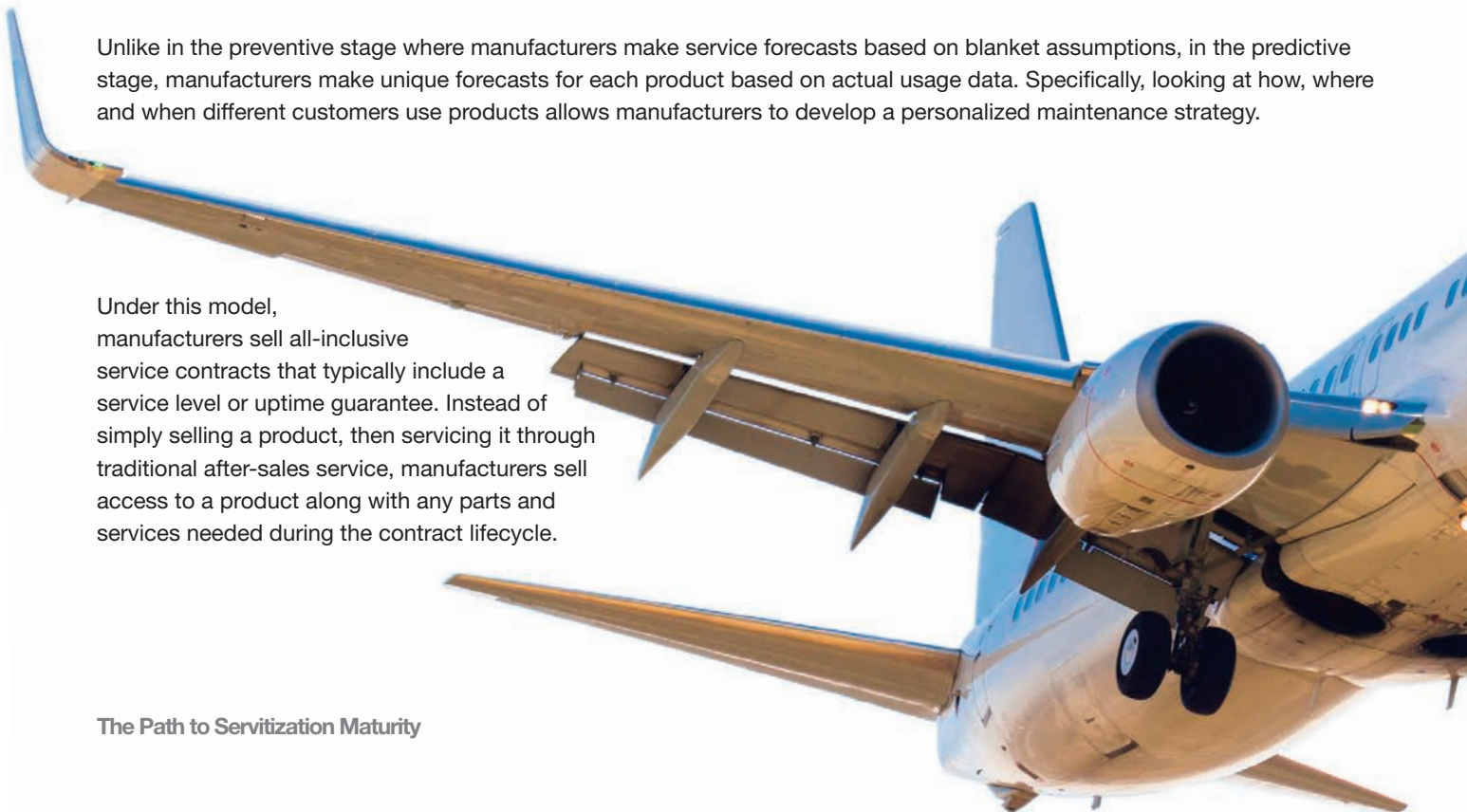
Predictive

The next stage of the maturity model introduces a few big shifts in how manufacturers operate. In the predictive stage, manufacturers are partially connected to products in the field. This partial connection means they can understand how customers are using each product and may even get additional data like a specific product's location, hours of use and conditions of use -- all of which can be used to forecast when maintenance will be needed. That being said, manufacturers only receive this information periodically, not in real-time.

Unlike in the preventive stage where manufacturers make service forecasts based on blanket assumptions, in the predictive stage, manufacturers make unique forecasts for each product based on actual usage data. Specifically, looking at how, where and when different customers use products allows manufacturers to develop a personalized maintenance strategy.

Under this model, manufacturers sell all-inclusive service contracts that typically include a service level or uptime guarantee. Instead of simply selling a product, then servicing it through traditional after-sales service, manufacturers sell access to a product along with any parts and services needed during the contract lifecycle.

The Path to Servitization Maturity

This shift means that in the predictive stage, the risk moves from the customer to the manufacturer. That's because when customers pay for access to a product, they are guaranteed a certain uptime and if the manufacturer can't meet that uptime, they agree to pay the customer a penalty. The risk for manufacturers lies in properly forecasting the consumption of parts and services when pricing these contracts.

As a result of this shift, manufacturers in the predictive stage optimize for minimum contractual risk and maximum understanding of product usage. In this stage, manufacturers are really selling an uptime guarantee, which makes it critical to understand the potential risks when entering into a service contract.

Proactive

Finally, comes the proactive stage of the maturity model. In this stage, manufacturers are fully connected to products in the field, meaning they can get real-time information from those products via IoT-enabled parts. This information includes more than just location and product usage -- it also covers sensor readings that deliver data around things like temperature, vibration, pressure and power flow in real-time.

Armed with this information, manufacturers can apply Artificial Intelligence technology to understand which sensor readings are likely to lead to a product or part failure. This knowledge allows manufacturers to accurately predict failures, which paves the way for prescriptive maintenance.

Prescriptive maintenance does more than just predict failures -- it also applies business logic to understand the right course of action for the problem and the customer at hand based on the customer's service level agreement. With a high service level, the manufacturer will deliver a lot of predictive maintenance; but with a lower service level, they will deliver some predictive maintenance alongside some reactive service. In short, it's all about using business logic to determine the right way to generate value for each customer.

In the proactive stage, manufacturers sell an outcome. Customers pay for a specific outcome (or capacity), and it's the manufacturer's responsibility to deliver the products they need to realize that outcome. In this stage, manufacturers optimize for total delivery cost, as they are responsible for producing the products and services to meet a designated outcome.

Success Stories Across the Maturity Model

"Offering mobility as a service will require OEMs to think differently and turn their businesses on their sides to develop and deploy completely new business models." -- Kent O' Hara, Senior Vice President, After Sales Service, Renault-Nissan-Mitsubishi

Today, most manufacturers have products that fit into various stages across the servitization maturity model. For example, while most manufacturers will make new products with parts that have sensors -- and can therefore deliver predictive or proactive service to those products -- they also still have a range of legacy products in the field that require traditional, reactive, break-fix service.

"Offering mobility as a service will require OEMs to think differently and turn their businesses on their sides to develop and deploy completely new business models."

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Looking forward at the new business models manufacturers are introducing reveals a variety of interesting ways that the principles of the later stages of the maturity model are coming to life. These business models include building products enabled by IoT sensors, launching subscription-based pricing that covers access to both the product and any maintenance and having customers pay for access instead of for the product itself.

Some of the most interesting examples of how manufacturers are embracing more subscription-based business models include:

Mobility-as-a-Service: Care by Volvo and Book by Cadillac

Several auto manufacturers have introduced "mobility-as-a-service," a new business model in which customers don't actually buy a vehicle. Instead, they buy "mobility" through access to cars.

In the case of Care by Volvo, customers pay for a subscription to a specific car that includes everything from insurance and maintenance to roadside assistance for one flat monthly fee. Meanwhile, Book by Cadillac gives customers access to an entire fleet of vehicles that they can book through a mobile app at their leisure.

Book by Cadillac represents an advancement from the traditional business model, however the maintenance for the cars in this fleet is still preventive due to limited use of sensors. As a result, Cadillac's approach to mobility-as-a-service is a prime example of how manufacturers can embrace different stages of the servitization maturity model over time.

Comfort-as-a-Service: Reliable Heating and Air

Reliable Heating and Air is a top Trane dealer located in the Atlanta area and has introduced a "comfort-as-a-service" model. This approach allows customers to avoid paying for expensive new HVAC systems, instead subscribing to a system that Reliable owns for a flat monthly cost. Under the subscription, customers receive access to the equipment itself, plus lifetime repair and maintenance, with everything that might be needed to maintain the system included in the monthly cost. In this comfort-as-a-service model, customers pay for access to the product as well as for service to maintain a guaranteed uptime.

TotalCare: Rolls-Royce

Rolls-Royce has introduced a proactive service model called TotalCare that offers predictive service and management for airlines. With the TotalCare model, Rolls-Royce offers airlines secure costs for operating and maintaining engines through a pricing model based on engine flying hours. Rolls-Royce also uses advanced IoT-enabled sensors to monitor engine health, product durability and product reliability. This approach means that not only is the cost of operating and maintaining the engines directly related to use, but Rolls-Royce can also constantly monitor its engines via sensors to ensure the highest level of availability.

Conclusion

The move to delivering products as services is inevitable, and manufacturers need to take notice. The change won't happen overnight (nor can it), but it's already underway.

Demographic, market and technological trends are forcing this shift, and manufacturers like Volvo, Cadillac and Rolls-Royce that are embracing these changes are already realizing the benefits. But realizing these benefits does require taking a smart approach and phasing out older business models and rolling out new ones simultaneously.

Following the maturity model outlined in this paper and adopting the appropriate technology and process changes along the way can help manufacturers introduce new business models effectively. This includes appropriately managing risk and meeting customer demands for different types of products and services.

Ultimately, the journey to fully delivering products as services will take time, but when handled correctly, the benefits for both manufacturers and their customers will prove well worth the effort.

How Mature is Your Organization?

Contact Syncron at info@syncron.com for help defining where your business falls on the servitization maturity curve and to receive customized recommendations based on where you stand in this journey.

After-sales Service Trends

One of the best ways to understand the move toward PaaS is to look at where we're coming from, where we are now and where we're headed when it comes to after-sales service trends. Here's what you need to know:

Past:
Products are the value
In the past, products were what provided the most value to manufacturers. They would sell the products and leave the customers on their own for maintenance and repairs until it was time for a new replacement product.

Present:
Product-related services are the value
Today, product-related services hold the most value for manufacturers. These product-related services include parts maintenance, repairs, warranties and services around the products intended to minimize downtime. In this world, manufacturing revenue is based on services, since the more parts and services customers consume, the more money the business makes.

Future:
Customer business-related services are the value
Going forward, customer business-related services will hold the most value for manufacturers. These services include preventive and proactive maintenance designed to maximize uptime. In this future, customers will pay per use and the more parts and services they consume, the less money the business makes. That's because manufacturers will shift from a vendor relationship to a partner relationship in which they must meet an uptime guarantee.

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About Syncron

Syncron empowers the world's leading manufacturers to maximize product uptime and deliver exceptional after-sales service experiences, while driving significant revenue and profit improvements. From industry leading investments in research and development, to providing the fastest time-to-value, Syncron's award-winning, cloud-based service parts inventory, price and uptime management solutions are designed to continually exceed customer expectations. Top brands from around the world trust Syncron to transform their after-sales service operations into competitive differentiators.

▶ **For more information, visit Syncron.com**

[1] IDC, Servitization and Service Parts in the Age of Ecosystems, Doc # US43378419, Jun. 2019

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